

COAL MINING

MARCH, 1953

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VOLUME 30, No. 3

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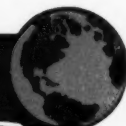
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BLAST HOLE DRILLS

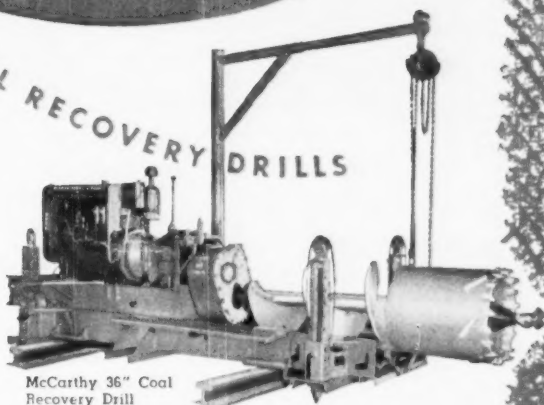
At Bessemer Limestone and Cement Co., Bessemer, Pa., one McCarthy Blast Hole Drill, like the one pictured below, averaged 90 ft. an hour, working through a hard blue shale facing 34 ft. deep. Holes were drilled on 18 ft. centers. Two men handled the whole job, including set-up and moving. Bessemer officials were so pleased with the performance of the McCarthy Drill that a second one was ordered and put to work in another section of their quarry. It, too, is breaking all previous records for fast, low-cost shot hole drilling.

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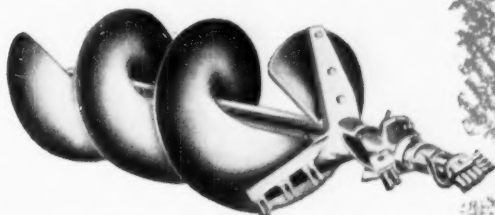
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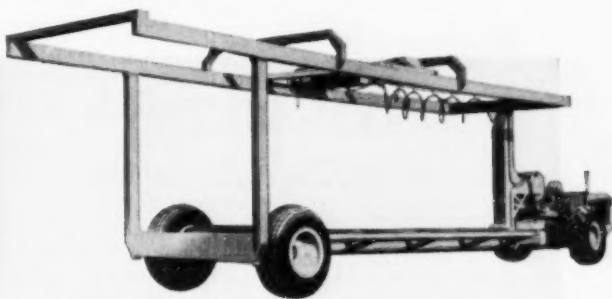
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Do You Know?

● Industrialists can get rid of more of their production problems by using "action psychology" than they can be using the "static psychology" method.

Dr. R. M. Bellows of Roger Bellows and Associates, Detroit, told the American Association for the Advancement of Science that industrial psychologists have been "barking up the wrong tree" by dealing with isolated individuals instead of with the groups of individuals involved in industrial problems.

He said that "action psychology" looks at a problem as a whole and tries to solve it partly through discussions in which all persons concerned take part. If such techniques had been used in the past, "it is likely there would be less industrial strife, fewer misunderstandings, than exist today."

Action psychology differs from static psychology because, as the investigation of a problem progresses, changes are made in the original situation which in turn influence the findings of the survey. The whole idea is aimed at improving the situation as the investigation goes along.

Static psychological studies merely investigate the existing problem. At the end, the findings are written up into a literary report which often is shelved without action.

● Guided missiles can now carry inside them complicated gadgets which will make up for any navigation errors caused by mistakes in manufacturing parts. The same controls can account for side winds, changes in air density and other atmospheric unexpected which would throw the guided missile off target.

This is revealed by Capt. Robert W. Fye, an instructor in guided missiles at Fort Bliss, Tex.

The best of these systems, but also one of the most complicated, accomplishes the task without any help whatsoever to the missile from outside during the course of the flight. Outside help, in the form of LORAN—radio navigational signals—or from the stars can be interfered with, the first by the enemy, the second by the elements.

For the basis of this internal navigational system, the guided missile brains went all the way back to Newton and his second law of motion. This says that force equals mass times acceleration. Devices, called accelerometers, in the missile measure the rate of acceleration at which the missile is deviating from its appointed path. They send signals to the steering mechanism which will put the missile back on the correct path to the target.

The drawback to this system, Capt. Fye said in the current issue of the *Antiaircraft Journal*, is the complexity of the equipment necessary to it. Other systems, based on presetting the course, on use of a magnetic compass, or on radio or the stars, however, make for errors in navigation.

These navigation devices are all designed for surface-to-surface, or SSM, missiles. More complicated problems enter into sending a missile against a moving target. The controls by which a missile itself, without aid from the ground, seeks out an enemy plane in evasive maneuvers, are still secret.

Here and There in the Coal Industry

● The annual meeting of the Northern West Virginia Coal Association was held on January 23, at Fairmont, W. Va. Officers elected were George Higinbotham, President; J. F. Trotter, A. R. Reppert and Joseph McQuade, Vice Presidents; and T. E. Johnson, Secretary-Treasurer.



L. C. Campbell, president, National Coal Association, and vice president, Eastern Gas and Fuel Associates, Coal Division, chats with EGFA's general counsel, James Eastham, at the NCA convention in The Waldorf-Astoria, New York, Nov. 11, 1952.

● William J. Jenkins, died suddenly from a heart attack at his home in St. Louis, January 11. He was President of the Consolidated Coal Co. until his retirement two years ago. He was a past president of the Illinois Coal Operators' Association and the Illinois Mining Institute. For many years he served as a Director of National Coal from Illinois. He is survived by one son, Stuart, of Nashville, Illinois.

● Fatal accidents in the bituminous coal industry for 1952 reached an all-time low, both in the number of fatalities, and the fatality-frequency and fatality-per-million-ton rates in bituminous coal mines for a calendar year.

● The annual meeting of the members of the Colorado and New Mexico Coal Operators Association was held in Denver, Colo., on January 21, 1953. Preceding the membership meeting, the Board of Direct-

ors of the Association met, at which time the following officers for the ensuing year were elected: President—L. M. Cooley, Edna Coal Co., Denver, Colo.; Vice Presidents—J. R. Kastler, St. Louis, Rocky Mountain and Pacific Co., Raton, N. Mex. and W. J. Johnson, Arrowhead Coal Co., Monarch, Wyo. O. F. Bridwell was reelected Secretary-Treasurer of the Association.

● Richard Maize, for the past twelve years Secretary of Mines for Pennsylvania, and for more than forty years with the department, ended his service there on December 31, 1952. He was succeeded by William J. Clements of Coaldale, Pa., who has been with the department for more than 20 years as an inspector in the anthracite regions. Mr. Maize plans to open a mining consultations service with headquarters in Uniontown, Pa.

● The Northern Indiana Coal Traffic Association held its first annual meeting in Chicago, Ill. W. S. Webster, Walter Bledsoe and Co., was elected President; Hugh B. Lee, Maumee Collieries Co., Vice President and C. R. Templeton, Linton-Summit Coal Co., Secretary-Treasurer. Directors named included William H. Cooke, Pandora Coal Co.; Gregory S. DeVine, Truax-Traer Coal Co.; Reed Moyer, Central Indiana Coal Co.; W. J. O'Brien, Sherwood-Templeton Coal Co. and P. H. Templeton, Templeton Coal Co. Harold V. Scott was reelected Executive Vice President and Traffic Manager.

● Lehigh University trustees have received a new scholarship fund for students in mining engineering, established through a bequest of \$30,168 by the late Mrs. Esther R. Fuller Warwick, Honesdale, Pa., today announced Elmer W. Glick, treasurer of the university. The new fund, which will be administered through the regular university committee on scholarship grants, will be known as the John T. Fuller endowment fund, in memory of her father, a Lehigh University alumnus.

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ROBOTS RIVAL MEN

Machines that correct their own mistakes gradually are taking over American industry. They turn out products more quickly than men. They govern plant processes more accurately. They need little supervision. But this does not mean, necessarily, that labor faces a two-headed dragon.

Control engineers are whipping up bigger and better robot machines to take the place of factory workers.

The machines are largely automatic. Some even correct their own mistakes. They can control chemical processes better than men can control them. They work faster, produce more and need less supervision than their human counterparts.

But that does not mean, necessarily, that workmen are facing a two-headed dragon eager to devour their jobs. Instead, it may mean that labor is at the doorway of a brighter and happier future.

Economists predict the future factory workman will be more highly skilled than he is now. He will draw more pay, have more leisure and will be happier in his job. Lots of routine work will be handled by machines that do not feel the pain of drudgery.

Labor probably will not be thrown out suddenly on its ear as automatic machines invade the factory or mine. The machines will take over gradually, probably so slowly as to escape notice.

Even if existing factories are converted to automatic plants, the apparent switch from men to machines may not be as serious as it first appears.

H. L. Waddell, editor of *Factory Management and Maintenance*, recently told the American Society of Mechanical Engineers:

"I know of a chemical plant that had about 1,000 employees five years ago. The management decided upon complete modernization plus a 50 per cent expansion in capacity. Today the plant has almost the exact number of employees. But instead of 700 production workers and 300 maintenance men, there are now about 550 production workers and 450 maintenance men."

That seems to bear out the opinion of the experts who foresee a more highly skilled workman in the factories of tomorrow. It will take skilled craftsmen to keep the automatic machines running properly.

Most petroleum refining processes

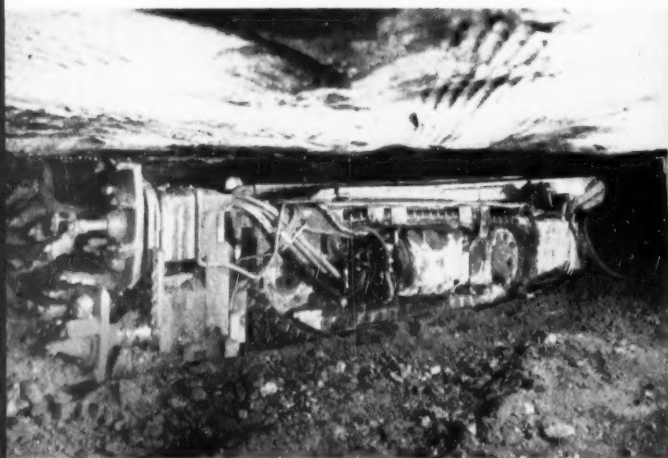
already are instrument-controlled. The instruments keep wary switches ready to close the moment something goes wrong. When an error is detected in the refining process, the instruments insert the proper corrections so that the end product will be up to snuff.

Refineries have come to lean heavily on the mechanical watchmen. If the instruments were removed and their jobs were given to men, America would be hit hard right in the gas tank. This is about what would happen:

The now-efficient refining processes would give way to less-efficient ones. That in turn would raise further the growing demand for crude oil.

Gasoline quality would plummet. Bustling city streets would become the scene of sputtering autos backfiring their way through traffic. Even automobile engines might have to be redesigned to work on the lower-quality fuel.

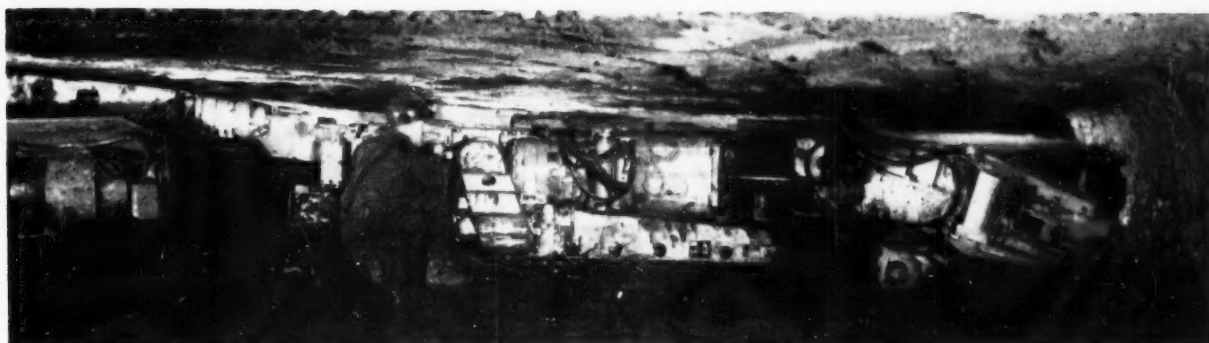
To robot controls belongs much of the credit for today's high-quality motor fuel, experts say. If the instruments were removed, many refineries simply would have to shut down.



Over-all picture of the Jeffrey Colmol from cutting head. Note arrangement of teeth in the cutting head which cuts full seam of the coal.



Back end of the Jeffrey Colmol showing coal falling from the conveyor. Note condition of rib and roof.



Over-all view of the Joy Continuous Miner loading into shuttle car.

Automatic machines can be simple or complex. But they all have one thing in common. They work on what is called feedback.

Feedback merely is a process of comparing the actual product with the desired product and of making corrections. A thermostat in the living room of a house compares the actual temperature there with the desired temperature for which the thermostat has been set. When the house begins to overheat, the thermostat cuts off the stoker. When the house begins to get cool, the thermostat starts up the stoker. One of the earliest forms of feedback was exemplified by flyball governors. As the load on a steam engine increased and its speed fell off, the whirling flyballs dropped down a bit. Linked to the steam valve, the dropping flyballs opened the valve a little more. That let the engine carry the bigger load at the proper speed.

From the flyball governor, feedback control has spread to all sorts

of devices. Most ordinary radios, for instance, have a feedback system that radio engineers call the automatic volume control. The AVC circuit makes the radio's vacuum tubes more or less sensitive as the signal strength changes from the station to which the radio is tuned. How much volume control jiggling the AVC saves the listener cannot be appreciated unless he can switch it off for a startling comparison.

In the category of the more-complicated machines is the device invented by Prof. W. M. Pease of the Massachusetts Institute of Technology Servomechanisms Laboratory. The machine can take a strip of punched tape and automatically mill a complete machine part. If the product begins to vary from the product "described" by holes in the tape, the machine makes corrections.

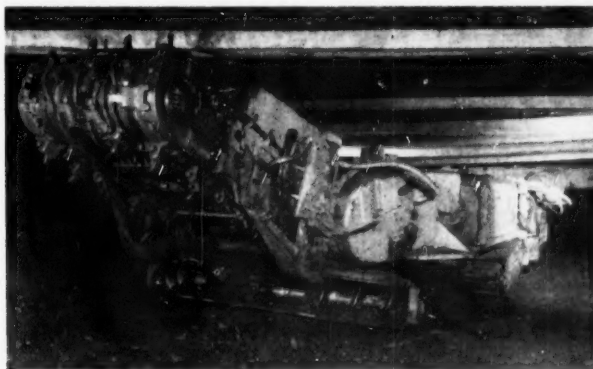
The advantage of many of the complex automatic machines lies in their versatility. They can be switched from the production of

one part to another merely by changing the tape that instructs them.

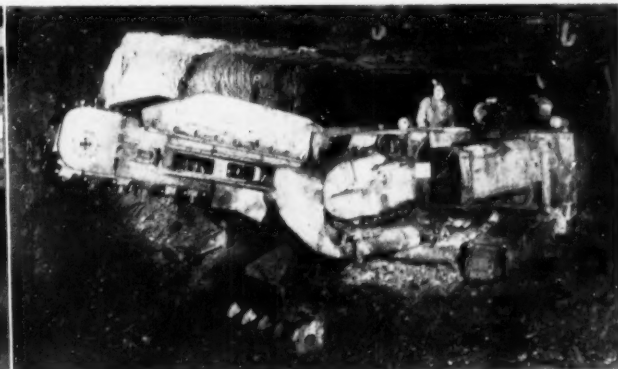
Although American industry still is far from being "automatized," it nevertheless seems headed in that direction. Machines now are being thought about, talked about and experimented with that even may be able to do paper work which up to now could be done only by humans. Such machines may come in handy in payroll and accounting departments of medium-sized and large companies.

Other machines have been devised to predict the weather, to control the flow of a big city's traffic, to count paper money, to sort lemons according to color, to solve test mazes set up for them in the laboratory, and to play ticktacktoe.

One British-built electronic device, affectionately known as the Madam II, can even sing "God Save the Queen," when given a coded version of the score. No record or phonograph is in the machine.



Front end of the Joy Continuous Miner, showing the new cutter head and bottom cleaning scroll.



Joy Continuous Miner in operation with cutter head near top of seam.



C. I. Bennett, Dist. Inspector; W. M. Berry, Insp.; Joseph Bierer, Chief, W. Va. Dept. Mines; Ernest Phillips, incoming President of the Institute; K. K. Kincell, Supt. Consolidation Mine 93 and Toastmaster.



Left: J. D. Martin, President of the Institute; R. Spindler, Director School of Mines, West Virginia University; J. J. Dougherty, Chief Fairmont Section, U. S. Bureau of Mines; W. D. Baldwin, Inspector, U. S. Bureau of Mines; Frank Zacher, Gen. Supt., Christopher Coal Co.

Eighteenth Annual Meeting of the Northern West Virginia Coal Mining Institute

Warning that the national shortage of professional engineers will become more pronounced in the

years immediately ahead, Henry C. Woods, chairman of the board of Sahara Coal Co., Chicago, urged

coal industry executives to accept "individual responsibility" for "exciting and enticing" young men into mining engineering careers. Speaking at the convention and business meeting of the National Coal Association at The Waldorf-Astoria Hotel in New York, Mr. Woods, chairman of the NCA Vocational Training and Education Committee, recommended that industry representatives take the following course of action in a campaign to provide trained men for the jobs that the coal industry offers:

1. Visit local high schools and universities to discuss with faculty members and students the opportunities for engineers in coal.
2. Give summer employment to college students; then plan to hire



Left: Larry Hagerty, Clerk; James McLeary, Mine Foreman; H. R. Hall, Supt., Vaughn Zickefoose, Mine Foreman; James F. Wildey, Mechanical Boss; Donald E. McHenry, all of the Ida May Mine of the Bethlehem Mines Corp.



James L. Magro, Foreman; Delmar Hunter, Foreman; D. E. Long, Shop Foreman; Paul Jones Maint. Foreman. All with the Eastern Gas & Fuel Asso., Granttown.



Left: R. R. Chrisman, Eng. and Harry C. Conway, Br. Mgr., American Oil Co.; T. F. Whalen, R. & R. Coal Co.; R. J. Fletcher.



Left: Emmett R. Barr, Mine Safety Appliances Co.; K. S. Hobbs, Production Eng., Eastern Gas & Fuel, Granttown; Charles H. Myers, Mine Safety Appliances Co.; W. C. Wade, Div. Mgr., Monongahela Power Co.



Glen Hamilton, Foreman; N. H. Wilson, Foreman; George W. McCaa, Gen. Mgr., all with the Jamison Coal Co., and Arvil Ash, Purchasing Agent for Consolidation Coal Co.

them for permanent jobs when they are graduated.

3. Provide money for scholarships at the university level as well as at the graduate level.

Mr. Woods explained that his training and education committee members have visited leading mining engineering schools in seven states in the East and as far west as Colorado, and that a number of other projects of this type are scheduled for early next year.

"When we arrive at a university we usually meet the president of the school, the dean of the department of mining engineering and all of its professors," Mr. Woods continued. "We go over everything that they teach, make suggestions, and tell them of some of the modern trends that are of interest to them. We acquaint them with our problems. We look at their laboratories and their equipment. They, in turn, acquaint us with their problems and we get suggestions and information from them which help us in our work."

According to Mr. Woods, coal companies producing as much as 500,000 tons annually can afford to hire one new engineer each year. He said that education and training are "vital in this industry that could be well on the threshold of its greatest achievements," adding that "the matter of education must become a part of our individual program just as much as hiring salesmen or combustion engineers."

Penn State College has set up a two weeks' course in fuel combustion, Mr. Woods pointed out, in which selected employees of the coal industry should be enrolled.



Left front: R. E. Current, Eng., Mine 32 Consol. Coal Co.; Dan E. Cronin and Sutton Critchfield of the Fairmont Coal Bureau. Back left: Arthur E. Belton, Eng. Consol. Coal Co.; Fairmont and Harold Parrish, Mine Foremen, Joanne Coal Co., Rachel, W. Va.



E. P. Smith, Suncrust Supply; Howard Hardesty, Jr., J. W. Herlichek, Jr., Engineer, Consol Coal Co.; James Kehring and Robert W. Hanna, President, Virginia-Pittsburgh Coal & Coke Co.



Left: John M. Meer, Chester C. Parrish, E. L. McCoy and A. B. Price, all of the Consolidation Coal Co. Mine, Owings, West Virginia.



At this table are: John Spooner, Hulbert Oil & Grease Co.; H. Kenner and C. Harris of the Virginia & Pittsburgh Coal Co. and W. R. Melville of the U. S. Bureau of Mines.



J. S. Farinash and C. W. Smith of the Northern West Virginia Coal Asso.; T. Gemondo, C. J. Akers, James Gemondo and Frank S. Condra, all from Mine 32 Consol. Coal Co. Standing, left: H. J. DeWitt, Chief Electrician, Farland Fuel Co.; Geo. Murry, John Lucas, Northern West Virginia Coal Asso.; and C. V. Lucas, Asst. to Pres. Consol. Coal Co.

If the experiment proves successful, at least four other colleges in different parts of the country will offer duplicate curriculum, Mr. Woods promised. Meanwhile, he said, other short courses in coal salesmanship and combustion are being projected at some universities in cooperation with NCA.

Gatherings of official personnel of coal mining companies like the one held each year by the Northern West Virginia Coal Mining Institute, at Fairmont, give the top executives an unusual opportunity to look over possible material for further training.



Left: John Shamblen, Mine Foreman; E. L. Fletcher, Asst. Foreman; Marco Popovich, Asst. Foreman; J. W. Steech, Supt. all of the Joanne Coal Co., Rachel, W. Va.



Charles W. Stipe, Ind. Engineer; Edward Walter, Supt. Power Stations; Geo. A. Nay, Manager, New Business Dept., all of the Monongahela Power Co.; E. L. Manigault, Manager, General Electric Co., Fairmont Branch.



J. G. Thompson, Foreman; E. L. Zuspan, Foreman; Joe Piteleski, tippie foreman; C. H. Holbert, Engineer; E. B. Wilson, Foreman. All from the Williams Mine, Consolidation Coal Co.

● The unblinking eye of television is being used in industry to cut costs, to reduce accidents and to lower capital investment. Under certain conditions, it also provides more information than can be gained by direct observation.

Speaking to the American Institute of Engineers, G. Holmes Wilson of the Diamond Power Specialty Corp., said the Utiliscope, the heart of industry's video system, now is used in 200 industrial applications. New jobs are being found for it so fast that it seems to have an even greater potential than commercial tele-

vision, he said.

The Utiliscope is less sensitive and less complicated than commercial television apparatus. Known as a "long-life cold cathode tube," it needs no filament or electron gun.

Although industrial television still is in its infancy, Mr. Wilson predicted that it soon would be used by guards to watch remotely located plant gates, to identify employees and perhaps even to regulate vehicular traffic.

L. M. Exley a Long Island, N. Y., Light Co. engineer, reported that his company

is using television to watch the furnace in its Port Jefferson steam plant. Placed in an opening at the top of two pulverized-coal and oil-fired furnaces, the camera shows furnace changes that occur during different stages of fuel combustion. The camera lenses are protected by water- and air-cooled glass.

In addition to yielding more information about furnaces in operation, the video system also has helped the company train men who have little opportunity to see what happens in a lighted furnace, he said.



Loading coal into Tournarocker in pit.



Tournarocker dumping coal into bin at tipple.

Tournarockers in Anthracite Stripping

At the present time there are two installations of the new type E-50 Tournarocker in anthracite stripping, totaling 7 units. These units are hauling overburden and coal at the operations of the Colitz Brothers Mining Company and at the Correale Construction Company, both in the southern part of the region.

Operations in the Anthracite region are about as rough as they come due to coal lying in up-ended strata and pockets, starting usually at the top of a mountain and extending downward to 400 feet, which means that the dirt and rock overburden must be hauled up 3 miles and dumped in a ravine or mined-out area. Due to the spotty location of the coal, permanent haul roads are not built and grades run up to 15 to 18% in spots, although the average grade is about 10%.

The Colitz Brothers operate 3 Super A Tournapulls equipped with E-50 Tournarockers.

The material is blasted conglomerate rock. And is hauled over a rough dirt haul road up an 18% grade 1000 feet to a spoil pile and dumped over the edge. This concern operates three 7½-hour shifts per day 6 days per week, and estimates that they haul an average of 30 cubic yards per load. Approximately 95% of all overburden is hauled by 3 Tournarockers. This job runs the year around and Colitz is enthusiastic over his machines and, as indicated, he expects to purchase 3 more soon.

Correale Construction Company has 4 units and uses them not only for hauling stripped materials, but also for hauling coal to the processing plant.

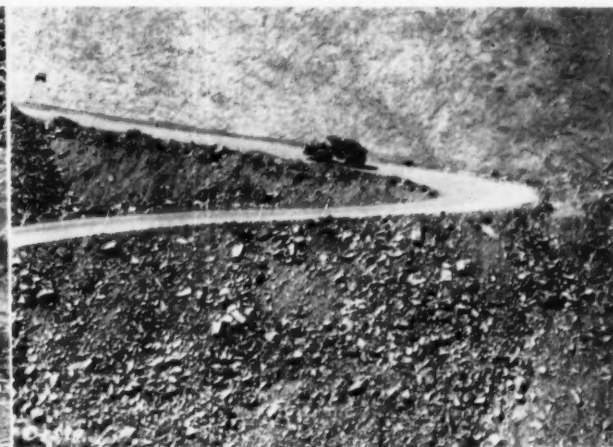
This particular application is exceptionally rugged as they must

haul up and out of a 270-foot-deep pit over a rough and bumpy old road with grades running from 10 to 15%. The rock haul is 1 mile one way. They claim 50 to 60 tons of rock and dirt are hauled per load in second speed up these grades. The road is a winding mountain road with several hair-pin turns. Correale has built a lip or extension on the rear of the Tournarocker body in order to haul bigger loads of coal. They claim they are hauling 40 tons of coal per load and they estimate that the addition of this lip adds 10 tons of coal to the pay load. The lip is not removed when rock is hauling and the maximum loads are, in excess of 60 tons.

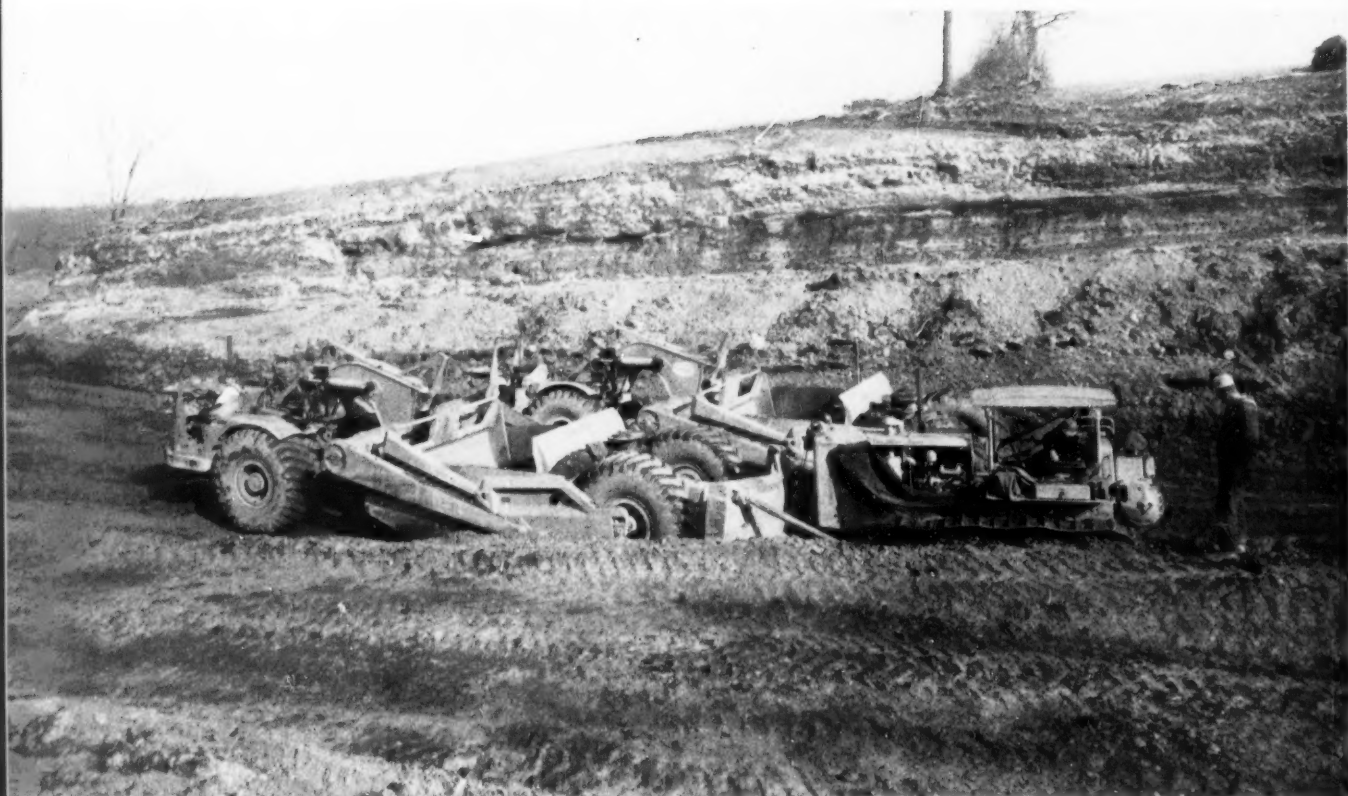
Correale operates a 5- to 5-day week 14 hours per day. They like their machines and we understand that they plan to purchase 4 more units soon.



Close-up view of Tournarocker negotiating steep hill with load of coal.



Tournarocker pulling heavy load of overburden from deep pit.



Portion of the operation of Fyock & Reed, showing the two scrapers, the tractor and a representative highwall.

Scrapers Used for Stripping at Fyock & Reed

They tell us that time is the greatest healer there is. Time also works to our advantage in other ways. In coal stripping, time is bringing better stripping machinery which is helping heal the

wounds made in our pride by not being able to move overburden economically enough to make those extra cuts that would give us much more coal from our properties. This applies more to the thinner

seams of coal than to the thicker seams.

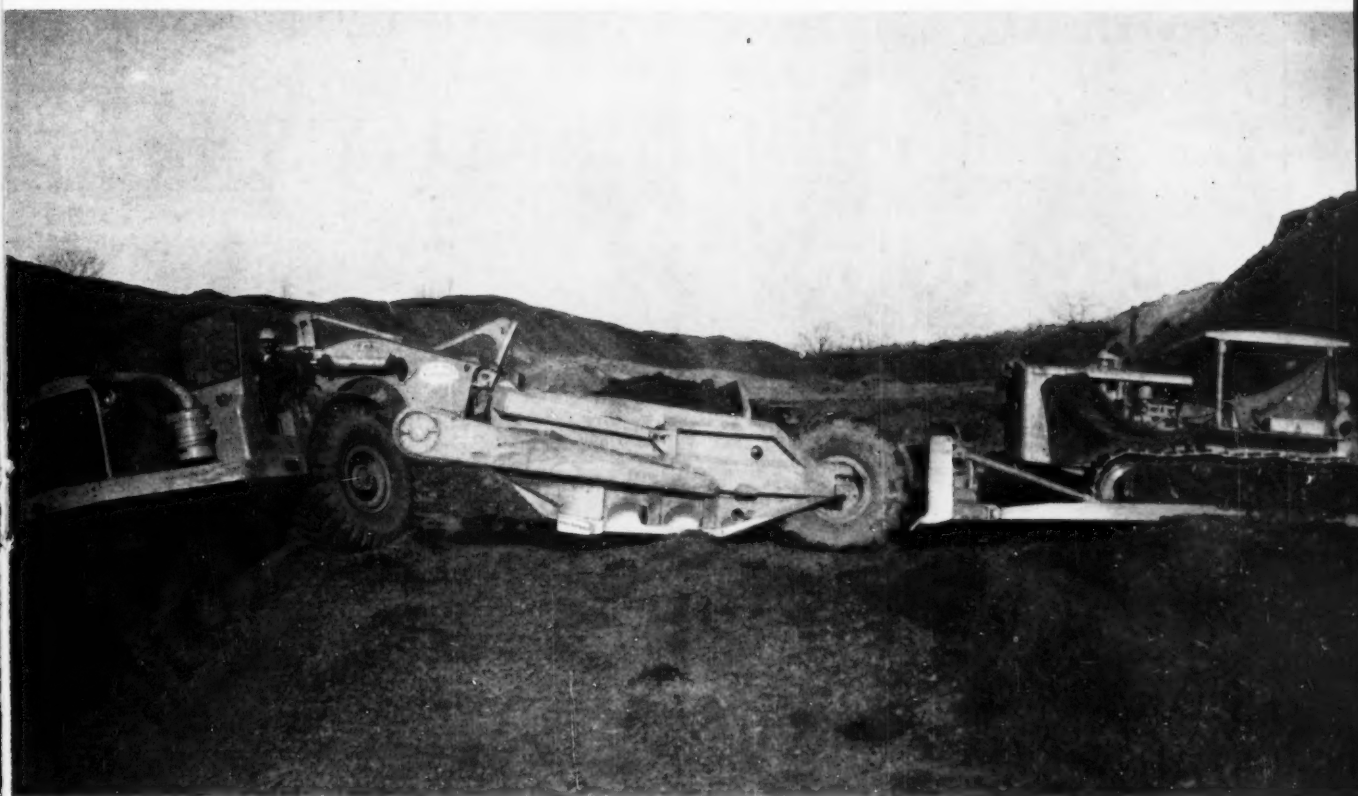
Large, more powerful scrapers are one of the newer type of earth moving machines that are enabling strippers to reopen abandoned pro-



One of the scrapers dumping load at spoiling point.



Vincent Blasco, Supt., directing scraper operator to new dumping area.



Close up of the scraper and tractor in loading operation. Overburden is not shot.

perties and to make additional cuts on their present properties.

This past year has shown an unusually large increase in the use of scrapers in Central and Western Pennsylvania not only in contour stripping but also in making box cuts. Scrapers not only haul big loads of spoil economically, they haul them away from the workings either into pits from which the coal has been removed or they spread it on spoil banks in a way that eliminates the time and cost of backfilling.

The Fyock and Reed operation near Stoyestown, Somerset County, Pennsylvania is one of the coal strip mines that has been reopened on abandoned property. There the Miller "B" seam runs 20 to 30 inches thick. The previous stripper moved up to 25 feet of cover—20 feet being shale—in contour mining. With two Model 21 Cater-

pillar scrapers having 18 cubic yard capacity, Fyock and Reed are stripping all cover on a 20 acre tract of land with maximum cover of 30 feet.

The overburden is being moved without shooting. The scrapers are powered by Caterpillar 6-cy-

linder 275 hp engines and are pushed in loading by a Caterpillar D-8 tractor equipped with the new Caterpillar "U" blade. The coal is loaded out with an Osgood Model 816 shovel having 20 foot boom, 15 foot stick and $1\frac{3}{4}$ yard dipper. This shovel also strips overburden.



The Osgood Model 816 shovel which strips overburden when it is not loading coal.

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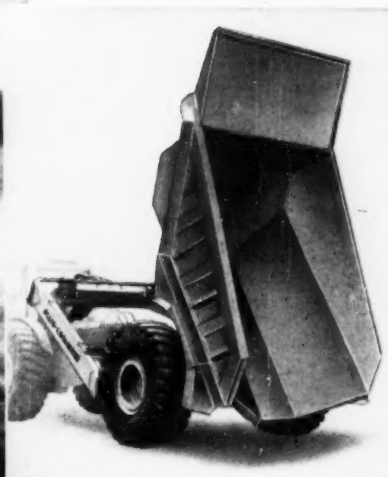


BUILT TO TAKE ROCK-SHOCK

Double steel floor is reinforced with heavy oak plank to absorb loading shocks. Front and sides are channel ribbed to provide rigidity. Steering jacks and tires are protected from accidental damage by falling rock.



DUMPS SAFELY . . . CLEANLY — Wheel base remains constant during entire dumping cycle. With this stable wheel base, operator may back to the very edge of a steep fill, set the powerful air brakes on *all four* wheels and put the entire load over the edge.



Clean interior, plus high, 70-degree tilt assures complete load ejection. Body may be heated by exhaust to prevent freezing of materials in severe temperatures.



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TRACTOR DIVISION — MILWAUKEE 1, U. S. A.



Tractor pushing top soil and air compressor and wagon drill making drills holes in sand rock cover



Close-up view of the air compressor and wagon drill.

Sanbrac Strip Mine In Redstone Coal At Finleyville, Pennsylvania

Where it has not been eroded by glacial thawings in Western Pennsylvania, the Redstone seam of coal is generally 40 to 42 inches thick. It lies from 40 to 50 feet above the Pittsburgh seam and is strippable over practically all the outcrop of the deposit. It makes a good steam coal and is used also for domestic heating and cooking.

In the past, when the Pittsburgh seam coal was abundant, the Redstone coal received little or no attention. Now that the Pittsburgh coal is becoming scarce, together with the construction of several large electric power producing

plants on the Monongahela River, south of Pittsburgh, which is in about the center of the best part of the deposit of Redstone coal, that coal has become valuable and is being sought by large coal producers and consumers.

The strip mine of the Sanbrac Coal Company lies along the B & O Railroad, about 3 miles South of Finleyville. The coal lies between creek beds and roads and the tops of the hills. It runs from 40 to 42 inches thick and is fairly hard.

Overburden is top soil, shale and lime rock. The stripping is done with tractors, self propelled 15 1/2 yard scraper an Osgood Model 1006

shovel and a P & H 1055 L C. dragline.

Tractors and scrapers move the top overburden which consists of soil and shale, down to lime rock.

A315 cfm LeRoi air compressor is used to power a wagon drill in making shot holes in the rest of the cover.

The Osgood shovel has a 45 foot boom, 37 foot stick and 2 yard dipper. The dragline has an 80 foot boom and 4 yard Page bucket. The shovel is assisted by tractor on the highway in the higher cover area. The coal is loaded by a Manitowac Model 2,000 shovel. Hauling is done on contract.



Tractor pushing blasted sand rock, following the air compressor and wagon drill.



Osgood Model 1006 shovel spoiling overburden from the coal bed.



Thomas McCall, at the dumper, is in instant communication by voice with all the motormen, and exercises effective traffic control that assures the smooth movement of cars over the double-tracked line.

HoistPhone Provides Two-way Communication

A new frequency-modulator carrier communication system for mine hoists has been announced by Mine Safety Appliances Company, Pittsburgh, Pa.

Called the HoistPhone, MSA's new communication system is designed to maintain two-way conversation between the hoisting engineer and the hoisting cage. The system operates with the cage at any level, as well as in motion.

Greater safety in shaft opera-

tions is claimed for the HoistPhone. MSA engineers point out that in case of cage or shaft damage while the cage is enroute, voice signals can be transmitted to the hoisting engineer quickly, clearly and instantaneously. Leveling of cage for loading is made easier, too, the company said. Since the cage can be "talked to" the desired level, bell or hand signals can be eliminated.

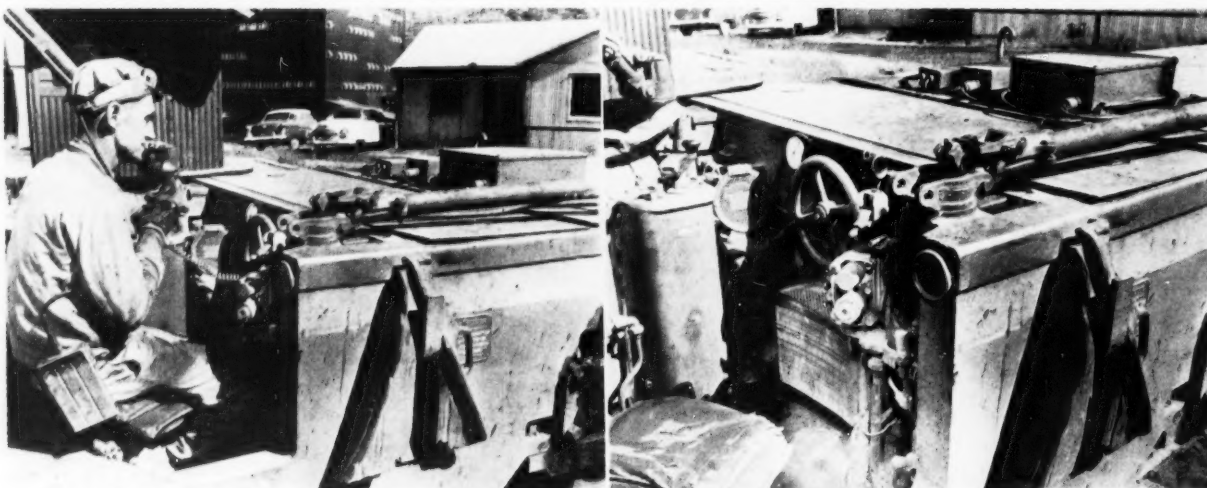
The HoistPhone can be used to

advantage in hoist inspection trips, it was added. With a hand type microphone, the inspector can ride atop the cage giving specific instructions to the hoist engineer. In this way, the number of trips needed to check shaft conditions or hoist equipment can be reduced. Inspections are made safer and more positive, according to Mine Safety.

In construction work and shaft repairs, the HoistPhone makes precise movement possible. This is



Motorman Adam Tiziani talks to the dumper as he approaches exit.



John B. Trnosky, motorman, demonstrates the Mine Phone unit as he pulls a train out of the Mathies Mine and approaches the dumper. The junction box, with cradle for the microphone, is mounted within easy reach; the speaker is placed nearby, to operator's right on this motor; located on top of motor and easily accessible are the voltage divider and the transmitter-receiver unit.

Close-up view shows typical installation of Mine Phone on a mine motor. Microphone in cradle on junction box within easy reach of the operator, loudspeaker nearby, and voltage divider and transmitter-receiver unit mounted atop the motor.

all-important in making most hoist repairs.

The HoistPhone is patterned after MSA's MinePhone which is used for communications between

mine locomotives and dispatchers or other locomotives to coordinate trip traffic and help keep haulage safely ahead of production.

Full details and illustrations are

available from Mine Safety Appliances Company, Braddock, Thomas, and Meade Streets, Pittsburgh 8, Pa. Bulletin Number 1601-2 will be sent without cost.



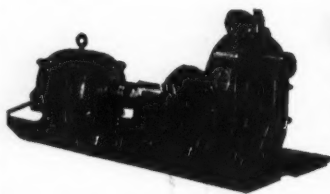
A fleet of ten Euclid coal haulers of 47-ton capacity, built of special high strength alloy steel, has been delivered to the Hanna Coal Com-

pany.

To be used at Hanna's Georgetown mine near Cadiz, Ohio, the units are the largest ever built by

the Euclid Road Machinery Company. The tractors are powered by 350 h.p. diesel engines and the trailers are built of a special manganese, nickel, copper, alloy steel noted for its high tensile strength and resistance to abrasion. Other unusual features include spring mounting of the trailer and use of nylon cord tires of 28 ply rating. Dual trailer and drive tires are 18 by 25.

Payload capacity is 94,000 lbs. or 62 cu. yds. struck and 70 cu. yds. heaped at a 3 to 1 slope. Length of tractor and trailer is 52 feet, 5 inches. Equipment includes a 10 speed transmission, air assist clutch, and hydraulic booster steering.



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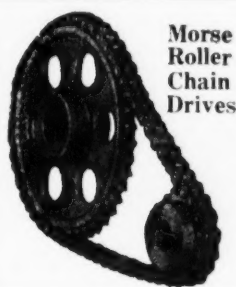
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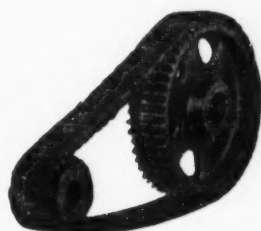
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● The Stiffler Industrial Lubricants Co. of Etna, Pennsylvania is contemplating building a very modern office building and plant in the vicinity of Allison Par, Pa. This new plant will be devoted to the manufacture of industrial Lubricants, Cutting Oils and Coolance."

● A simple and easily followed maintenance program, developed for Euclid earthmoving equipment, is described in a twenty page booklet published by the Service Department of the Euclid Road Machinery Co. Title is, "Euclid's Guide to Preventative Maintenance."

The publication not only explains the operation of the program, but provides owners with a detailed outline of all points that should be checked at 100; 500; 1000; 2000; and 4000 hours of operation. All forms necessary for installing and operating the program are illustrated along with the maintenance check sheets used. These are patterned after those used in aircraft maintenance.

Paper work can be taken care of in a few minutes a day and the program is easily installed or adapted to operations where a pre-

ventative maintenance program has already been established.

Heart of the program is a control system which notifies the shop when regular servicing intervals are due, checks on whether or not the work has been done, and provides an easily kept record of repair costs, fuel and oil consumption, and equipment availability.

The program is the first comprehensive preventative maintenance program and control system to be provided by a major construction equipment manufacturer and includes all necessary forms. Copies of the booklet explaining its operation may be obtained by contacting your Euclid distributor or writing The Euclid Road Machinery Co., Cleveland 17, Ohio.

● PITTSBURGH, Pa., Mon., Mar. 9, 1953—The Board of U. S. Civil Examiners, Bureau of Mines, announced today it is accepting applications for Federal employment of mining engineers at salaries ranging from \$3,410 to \$10,800 a year.

Most of the positions to be filled are in the Bureau of Mines, Department of the Interior, and will include all phases of the mining engineering profession, such as sampling and evaluating mineral

deposits, collecting field information on mineral resources, mineral industry operations, and mining practices, investigating health and safety hazards and mine accidents, participating in safety educational programs, and planning, designing, constructing, and inspecting mine workings and surface plants.

Application forms are available at first and second class post offices and U. S. Civil Service regional office.

Persons wishing to be considered for positions to be filled at an early date should submit their applications by March 17. Applications, however, will be accepted after that time and persons eligible will be placed on a Civil Service register and will be notified when they are being considered for appointment.

Applications should be filed with the Executive Secretary, Board of U. S. Civil Service Examiners, Bureau of Mines, U. S. Department of the Interior, Washington 25, D. C.

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Pick-Up and Delivery



● The United States Bureau of Mines has tested and approved the electrically driven new "MSA Bolt Hole Cleaner" designed for collecting dusts produced in rock drilling in coal mines.

In announcing receipt of the Bureau's approval, a Mine Safety Appliances Company spokesman revealed that a number of other development models performed satisfactorily in recent field tests.

One rotary roof-drill manufacturer has already concluded arrangements with MSA to install the dust-collecting units on all its roof-bolting drills as standard equipment, it was added. Other drill manufacturers have expressed interest in similar arrangements.

Various assemblies are being offered so that users can select a source of power best suited to their current operations. A mechanical-

ly driven unit has been designed for permanent mounting on either electric rotary drills or compressors. This unit takes advantage of a mechanical source of power to drive a vacuum pump, eliminating the need for electric motors or the necessity for borrowing air intended for drilling.

The electrically driven assembly, a self-contained unit with 1 HP explosion-tested motor and control, is designed for use with rotary drills where no mechanical power take-off is available.

A compressed air-driven assembly, for mines piped with air, or where there is a semi-permanent compressor, is available in two models: one that uses 22 cubic feet of compressed air per minute and operates with 25 feet of collecting hose, and one that uses 65 cubic feet per minute and will operate with 200 feet of collecting hose.

Mine Safety's spokesman said approval has been secured for the unit's operation in any of seven different ways. It can be used for electric rotary drilling vertically upward, upward through channel, and diagonally upward. For pneumatic drilling, approval has been granted for drilling vertically upward, upward through channel, diagonally upward and vertically downward.

A printed bulletin, Number 1504-1, containing full details and illustrating function and parts of the MSA Bolt Hole Cleaner is available from Mine Safety Appliances Company, Braddock, Thomas and Meade Streets, Pittsburgh 8, Pa.

● Newcomer Products, Inc., Latrobe, Pa., announced it has streamlined its Mining Tool Sales Distribution. Effective January 1, 1953 all customers are being serviced directly by the Company, instead of through Jobbers and Suppliers.

William E. Newcomer, President, states this controlled distribution method keeps abreast with the manufacturing expansion program begun several months ago, and will result in faster and more efficient customer service. Newcomer Mining Engineers are available for direct service and consultation.

All inquiries should be referred to Newcomer Products, Inc., General Sales Offices, Pittsburgh 21, Penna.

● In his coat pocket when he flew to Korea the Surgeon General of the Army, Maj. Gen. George E. Armstrong, carried seven shining, stainless steel clamps.

These clamps are credited by Army surgeons with doing a tremendous leg and arm saving job among the wounded in Korea. But they are in such short supply that whenever a few come off the assembly line they are rushed to Korea by the next medical officer flying out. Even the Surgeon General is pressed into this kind of messenger service.

The reason the clamps are in short supply is that they are all hand made. The original assembly line, if it could be called that, was in the basement of a German-born instrument maker's home in Glen Ellen, Ill., a Chicago suburb.

The special feature of these clamps are their 20 very small and perfectly aligned teeth. The teeth are so arranged that when the clamp is closed over a blood vessel, bleeding is stopped but there is no injury to the delicate walls of the artery or vein.

The teeth of the clamp follow the principle of the bed of nails Indian fakirs lie on without injury. The nails in the bed, and the teeth of the clamps, are so evenly placed that there is no undue pressure at any one point and therefore no injury.

The clamps are called Potts ductus forceps, after Dr. Willis J. Potts of Chicago who had them made for heart operations on "blue babies." They are made by Bruno Richter. The clamps, or forceps, are seven and a half inches long. The teeth are one millimeter deep and one-half millimeter apart. A millimeter is about four hundredths of an inch. The teeth are hand tempered, hand set and hand filed.

Maj. Edward J. Jahnke, MC, vascular surgeon at Walter Reed Army Hospital began using the clamps in 1949. Last summer he took two sets to Korea for use in combat surgery there. Surgeons at Mobile Army Surgical Hospitals were so delighted with them that more were ordered and Mr. Richter started working about 18 hours a day, seven days a week, to supply the Army needs. His basement workshop has been moved to a 30-by-60-foot building in Lombard, Ill., and two assistants work with him, though the handwork is still done by Mr. Richter.

The clamps, or forceps, cost \$35 apiece. They are said to be saving millions in disability payments that would otherwise go to veterans losing legs or arms.

● A milling machine that talks to itself may soon be talked about in industrial circles.

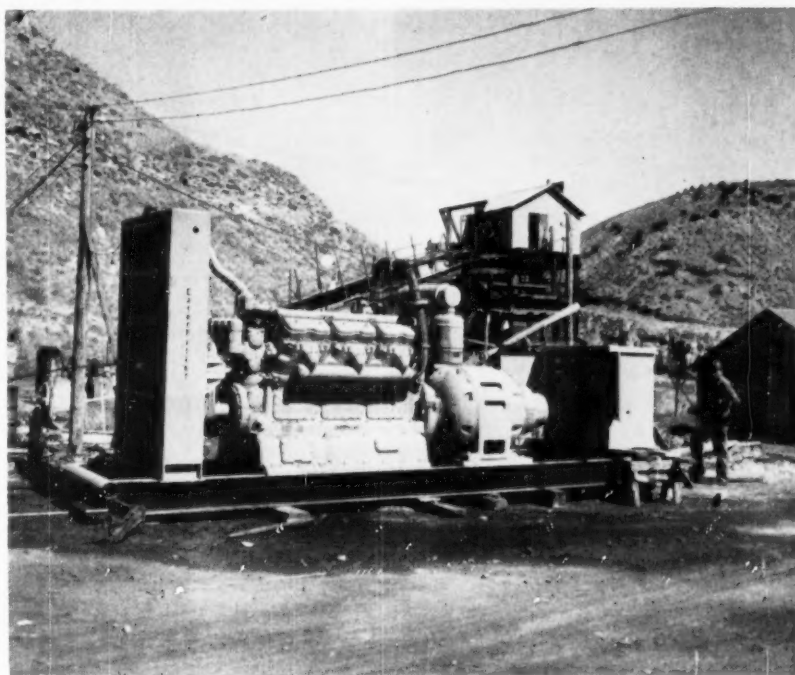
The machine, developed at the Massachusetts Institute of Technology, is given instructions on coded tape regarding the piece to be milled. Coded numbers are used on the tape and can be derived directly from drawings and specifications of the part to be worked.

As work progresses on the piece, the machine "talks to itself" by exchanging information between its power and decoding groups of servomechanisms to make sure that the part is milled just right. Servomechanisms are control devices that became prominent during World War II. They have been used to control radar and shipboard guns, and, in this case, milling operations.

The machine does in minutes many tasks that usually take hours. Its control system especially is attractive to machine tool applications because the coded instructions to the machine can be of unlimited precision.



These burned engines and generators, destroyed in a fire at the Red Wing coal mine at Axial, Colo., were replaced by a Caterpillar D397 Electric Set. The Caterpillar unit was a part of the Company's exhibit at the American Mining Congress in Denver until it was summoned for emergency duty.

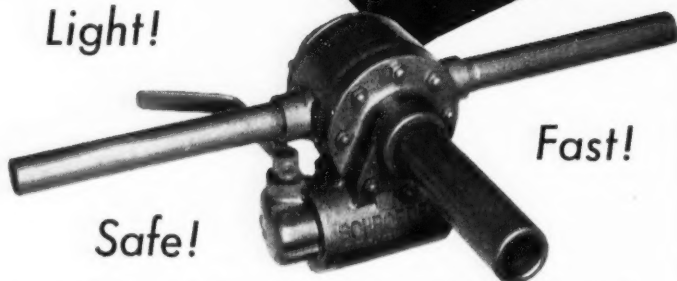


A Caterpillar D397 Electric Set, already in place in the Company's exhibit at the American Mining Congress in Denver, was removed and taken to the Red Wing coal mine at Axial, Colo., following a mine fire which destroyed the mine's power source.

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● A fragment of the bones of the most ancient true man so far known has now been cleaned and subjected to scientific study.

This first man, who lived many millions of years ago in Africa, is described in a communication to the British scientific journal *Nature* by Dr. J. T. Robinson, anthropologist of the Transvaal Museum, Pretoria, Africa.

The new bone specimen, classified by Dr. Robinson as "*Telanthropus capensis*," consists of a well-preserved portion of the nose with part of the palate intact. The region of bone below the nose has an angle of slope like that of true man and unlike that of any preman, and the nose itself is set on the face in human fashion.

The socket for the left canine tooth is intact and is too small for even the smallest of ape-men tooth roots. The

palate is deep as it is in humans.

"There seems small doubt," Dr. Robinson concludes, "that *Telanthropus* is a very primitive euhominid (true man)."

"It demonstrates the very close relationship between australopithecines (African pre-men) and man, and is almost certainly the oldest euhominid so far known."

These bones of early man were discovered in the Swartkrans site, three-quarters of a mile west of Sterkfontein and about 25 miles northwest of Johannesburg, Africa. The site is Upper Pliocene in age.

● Electronic "brains" are prominent among the devices patented this week.

An electronic calculating machine and a divider and multiplier were patented by inventors of International Business

Machines. A computer and a multiplying mechanism were patented by Sperry Corporation inventors.

Byron E. Phelps, Chatham, N. J., assigned patent number 2,624,507, for an electronic calculating machine to IBM. In this machine, a multiplication of one six-digit figure by another six-digit figure can be accomplished in less than a tenth of a second. Record cards can be fed through a reading station at the rate of 100 cards a minute. The operating force of the machine is derived exclusively from electrical impulses, occurring at the rate of at least 8,000 per second. Computations are carried on in the decimal, rather than the binary, system.

Mr. Phelps, together with Arthur H. Dickinson, Greenwich, Conn., and Carl A. Bergfors, Yonkers, N. Y., have assigned, also to IBM, patent number 2,624,508 for an electronic dividing and multiplying apparatus.

This machine has electronic tube circuits subject to different controls, according to whether multiplication or division is being performed. It is capable of multiplying two six-place terms by each other and of dividing a six-place dividend by a five-place divisor. The answers will be recorded to six places.

A computer which produces an output voltage which varies as the product of an alternating current voltage and one direct current voltage divided by another direct current voltage received patent number 2,624,505 and was assigned to Sperry. Inventor was Willis G. Wing, Roslyn Heights, N. Y.

Another invention assigned to Sperry is a multiplying mechanism. In this, the inputs to a conventional analog multiplying device are recycled with continued increasing or decreasing of the factors represented thereby beyond the capacity of the analog multiplier. The recycled product is interpolated between multiples of the factors. Thus, the inventor, Edward Dawson, New York, says, a high degree of accuracy with a minimum size of equipment is provided. Patent number is 2,624,506.

● At its annual budget meeting in Pittsburgh on Wednesday, December 10, the Board of Directors of Bituminous Coal Research, Inc., authorized the operation of an industry-research laboratory.

The BCR Board of Directors instructed the officers to lease a building in Columbus, Ohio, to house the Columbus staff of the organization and provide facilities for design, development, and pilot-plant testing of equipment and processes being investigated under BCR's General Research Program.

Dr. A. A. Potter, president of the national research agency of the bituminous coal industry, said today that the Board of Directors outlined four major divisions of research effort for the coal industry's cooperative program during 1953. Research will be conducted to increase user satisfaction in the following markets: (1) residential and agricultural, (2) commercial

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and small industrial, (3) general industrial, including utilities, and (4) gasification, carbonization, and chemicals from coal.

Some technical activities of the industry's research agency will be continued at a somewhat reduced rate to permit greater attention on the four principal project divisions. Research on coal-burning equipment for residential, agricultural, commercial, and small industrial uses will be intensified.

Dr. Potter also announced the election of Julian E. Tobey, president of Appalachian Coals, Inc., of Cincinnati, Ohio, to the Board of Directors of Bituminous Coal Research, Inc.

● Officers and directors for 1953 of the Kanawha Valley Mining Institute are: President J. A. Willis, Jr., Vice-President of Coalburgh-Kanawha Mining Company, Coalburgh, W. Va. 1st Vice-President—W. B. Devaney, Comptroller of Cannelton Coal and Coke Company, Cannelton, W. Va. 2nd Vice-President—H. A. Jones, General Superintendent of Carbon Fuel Company, Carbon, W. Va. 3rd Vice-President—M. L. Alley, General Manager, Gauley Mountain Coal Company, Ansted, W. Va. Secretary—William Buchanan. Secretary—Major A. W. Fluegel. Ass't Treasurer—Roy S. Long. Ass't Secretary—J. F. Steele. Directors—D. Carl Anderson; W. J. Bottomlee; LeRoy Britt; George Buckley; F. E. Burger; F. M. Cassidy; A. L. Clark; E. H. Eckhart; A. V. Faull; W. T. Hawkes; C. V. Hunt; W. W. Hunter; Orval King; C. J. Kirby; Myron Kok; R. S. Long; L. K. Marmet; Alan McBane; H. C. Morton; Joe Mulligan; W. R. Perfater; Wayne Plymale, Jr.; W. D. Sharpenberg; Joshua Smith; C. R. Stahl; E. E. Stephens; O. G. Stewart; Scott R. Wolfe; R. R. Woodrum; G. M. Yeager; R. F. Willis; Rush Meadows; P. O. Hamer; A. W. Fluegel and R. F. Overly.

● Release of a new 16mm sound film in color, showing operations of the Euclid Twin-Power Scraper, is announced by The Euclid Road Machinery Co.

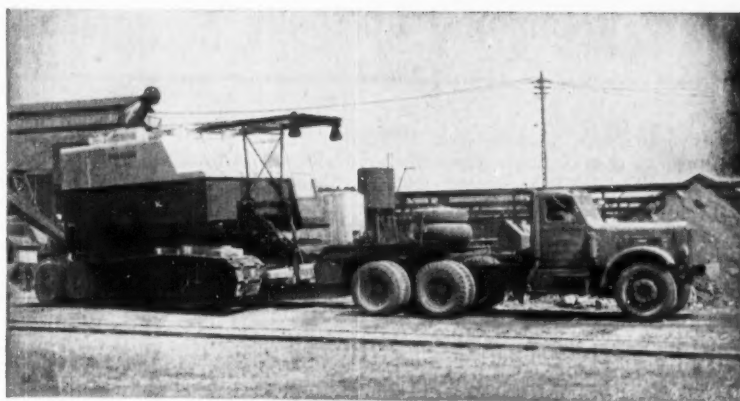
The film, twenty minutes in length, shows numerous types of applications such as: stripping operations; road, airport, and levee construction; sand hauling; and stockpiling of coal and ore. It illustrates how two separate engines, powering individual front and rear axles and driving through

torque converters and semi-automatic transmissions, makes it possible to self-load in most materials, travel over soft ground and up steep grades, and haul large loads over poor haul roads.

Contractors, mine and quarry operators, and industrial concerns may make arrangements for showing the film through their local Euclid distributor. Schools and colleges may borrow the film by contacting the Sales Development Department, Euclid Road Machinery Co., Cleveland 17, Ohio. Other Euclid films available are the "Garrison Story," "More Power to You," and "What's Behind the Euclid Name."

● A six-page bulletin recently issued by Armco Drainage & Metal Products, Inc., tells how to cut mining costs, improve safety and increase efficiency with its patented steel panel buildings. The piece describes such features as fire resistance, structural strength, ease of erection and relocation, low maintenance, standardization for economy, and weathertightness. The bulletin is well illustrated with detailed drawings and photographs of various mine applications. Copies may be obtained from any division office of Armco Drainage & Metal Products, Inc., or by writing to the company's headquarters in Middletown, Ohio.

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MOORE-FLESHER HAULING CO.

MOVERS of Coal Stripping and Contractor's Equipment

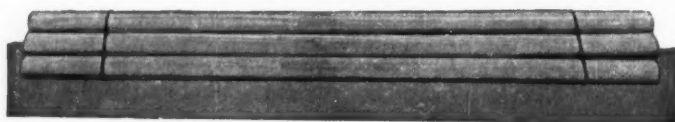
TWO LOCATIONS

Preble & Adams Sts., North Side, Pittsburgh 12, Pa.

Phone ALlegheny 1-3600

and

Stoney Hollow Boulevard, Steubenville, Ohio, P. O. Box 547



WOOD TAMPING POLES

For Tamping Explosive Shots: Poles are round made of Hardwood. Sizes to 10 ft. long.

1" Dia.	8c per lineal ft.
1 1/4" Dia.	12c per lineal ft.
1 1/2" Dia.	14c per lineal ft.
1 3/4" Dia.	16c per lineal ft.
1 7/8" Dia.	18c per lineal ft.
2" Dia.	28c per lineal ft.
2 1/2" Dia.	32c per lineal ft.

Special diameters and lengths can be furnished. These Poles meet the requirements of the New Federal Mine Safety Code.

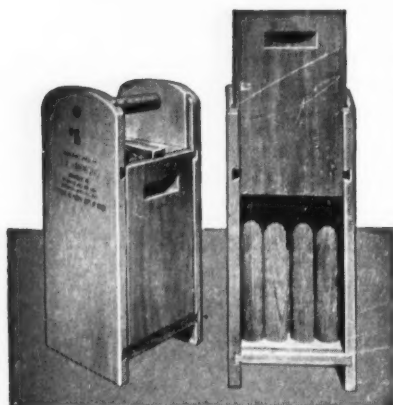


SECTIONAL TAMPING POLES

These Poles are made of straight grained wood and are coupled together with removable wood pin, note in place in recessed grooves by a rubber band and can be quickly connected and unconnected.

Couplers and Head Blocks are 4, 5, and 6 inches in diameter. Please specify size when ordering. Poles are 1 1/2 inches in diameter.

Head Blocks	4" Dia.	\$3.70 Ea.
Couplers	4" Dia.	3.90 Ea.
Poles	12 ft. long 1 1/2" Dia.	3.60 Ea.
Poles	14 ft. long 1 1/2" Dia.	4.20 Ea.
Poles	16 ft. long 1 1/2" Dia.	4.80 Ea.
Poles	18 ft. long 1 1/2" Dia.	5.80 Ea.
Poles	20 ft. long 1 1/2" Dia.	7.00 Ea.
Poles	22 ft. long 1 1/2" Dia.	8.80 Ea.
Poles	24 ft. long 1 1/2" Dia.	9.60 Ea.



EXPLOSIVE BOXES: Made entirely of wood having no metal parts, tongue grooved and dovetailed construction with automatic lock using a rubber band for a spring, treated with paraffin to make moisture resistant. "Approved by the Pennsylvania Department of Mines" Sizes as listed based on 1 1/4" x 8" sticks.

Powder Box Prices are as follows:

No. 9 Powder Box	\$2.55 Ea.	No. 25 Powder Box	\$5.10 Ea.
No. 12 Powder Box	2.95 Ea.	No. 36 Powder Box	6.50 Ea.
No. 16 Powder Box	3.45 Ea.	No. 50 Powder Box	7.60 Ea.
No. 20 Powder Box	3.90 Ea.	No. 72 Powder Box	8.70 Ea.

Detonator Box Prices are as follows:

No. 6 size 2 1/2" x 3" x 6" inside	\$2.15 Ea.	No. 8 size 2" x 2 1/2" x 8" inside	\$2.15 Ea.
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J. V. Hammond Company Spangler, Pennsylvania

● A new 48 page book covers all the types of earthmoving equipment manufactured by the Euclid Road Machinery Co. It also contains information on the selection of the proper type of equipment for various types of work and explains the manner in which twin-power ... the use of two engines powering separate axles ... is employed in some models.

The complete line of Euclid rear-dumps, bottom-dumps, scrapers and loaders are illustrated along with job views of them at work. Brief specifications and typical performance figures are given for the various models and individual design features explained.

Contractors, mines, quarries and other users of heavy duty earthmoving equipment may obtain a copy by requesting one on their company letterhead. Title is, "Euclid Equipment for Moving Earth, Rock, Coal and Ore." Contact your Euclid distributor or write The Euclid Road Machinery Co., Cleveland 17, Ohio.

● Marion Power Shovel Company is announcing a new bulletin which describes the Marion 111-M diesel shovel, with 4 cubic yard dipper.

The 12-page, 2-color booklet is

illustrated with photos of the 111-M in practically every material handling application. The unit is available as standard shovel, long-range shovel, or dragline. Outstanding features include Ward-Leonard-Electric Swing and Marion Air Control.

Other features mentioned in the booklet are: Compact, accessible machinery deck; heavily-built upper frame; rugged machinery assemblies; independent boom hoist (optional); and lower frame strength. A choice of two diesel power units is available.

A new type rigid gantry is also featured on the 111-M. The hinged gantry, which changes angle as the boom is raised or lowered is optional.

For copies of this bulletin, see your nearest Marion Distributor or write to Marion Power Shovel Co.'s home office in Marion, Ohio. Ask for Bulletin No. 402-A.

● We wish to advise that The Watt Car & Wheel Company has appointed C. B. Morris Company with offices at Glenshaw, Pennsylvania, as sales representatives in the territories of Northern West Virginia, Western Pennsylvania and Ohio.



MARTHA SCOTT says:

"This is how I mailed my gift to the American Cancer Society."

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"Your dollars will fight cancer. They will do it through education, research and service to patients. Great strides have already been made. Your dollars can save many more lives."

"Send your gift in an envelope, addressed to 'Cancer,' c/o the Post Office in your town."



● Nature is mixing air and water with pyrite in the shafts of soft coal mines, creating at least a \$3,000,000 pollution problem, and is dumping it in America's streams and rivers. But a research team at Johns Hopkins University may have found an answer to the problem.

The answer is an "inhibitor" that stops the production of sulfuric acid when air, water and pyrite-bearing soft coal are mixed in the laboratory. It is hoped the chemical will work as well in coal mines.

The scientists would not describe the chemical make-up of the inhibitor, nor would they speculate as to its practicality until field tests are run in the next few months.

The Johns Hopkins research team consists of Dr. Charles D. Renn, sanitary engineering expert, Dr. Walter A. Patrick, professor of chemistry, and Floyd W. McCollum, a graduate student in chemistry. The men are working under a fellowship sponsored by the Interstate Commission on the Potomac River Basin, Washington, D. C.

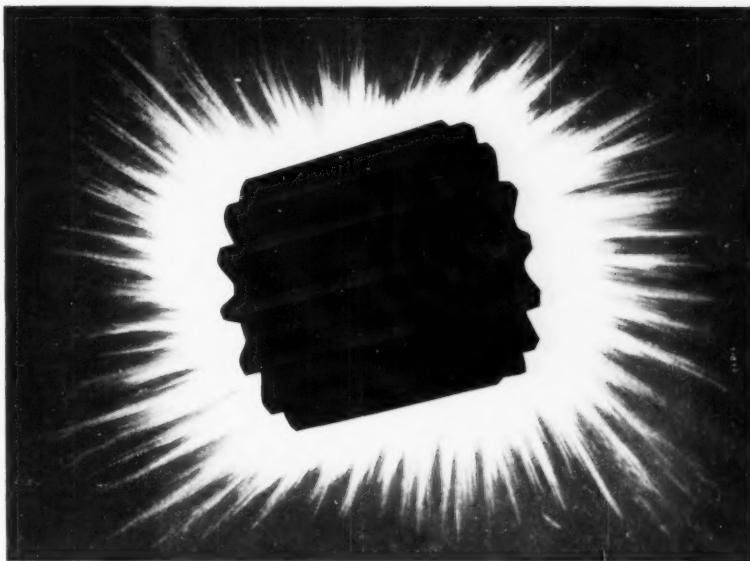
The seriousness of the pollution problem is dramatically brought to light by the fact that more sulfuric acid is created in America's coal mines than is manufactured commercially in the entire world. Estimated at 10,000 tons a day, the acid seeps into rivers and kills fish and damages industrial equipment. The damage done by the acid in 1943 was estimated at about \$3,000,000.

New coal mines increase the seriousness of the problem. As they are opened, or as new shafts are sunk in old mines, more sulfuric acid is made by nature. Old coal mines continue producing the acid at a steady rate.

Pyrite, commonly called fool's gold, is a disulfide of iron. A special form of it that occurs in most soft coal fields is called "sulfur balls."

When sulfur balls are exposed to the elements in the presence of a common chemical, the reaction produces sulfuric acid and ferric hydroxide. The ferric hydroxide drops out when it reaches the stream, leaving the acid.

In the United States, the pollution problem is concentrated along the Appalachian mountain chain. It is especially severe in Pennsylvania and Ohio.



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Increasing gear life may be a real problem for you but it's our business. It is something we do by combining design, metal, and machining with a special heat-treating process and experience we have gained making quality gears since 1914.

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✓ Your PITTSBURGH GEAR distributor will give you more information and names of operators near you who have used **Armored Gears** for years. He stocks standard renewal gears and parts that will save you money. Write us for his name.

Look for the "Pittsburgh Purple" protective coating on the gears you buy.

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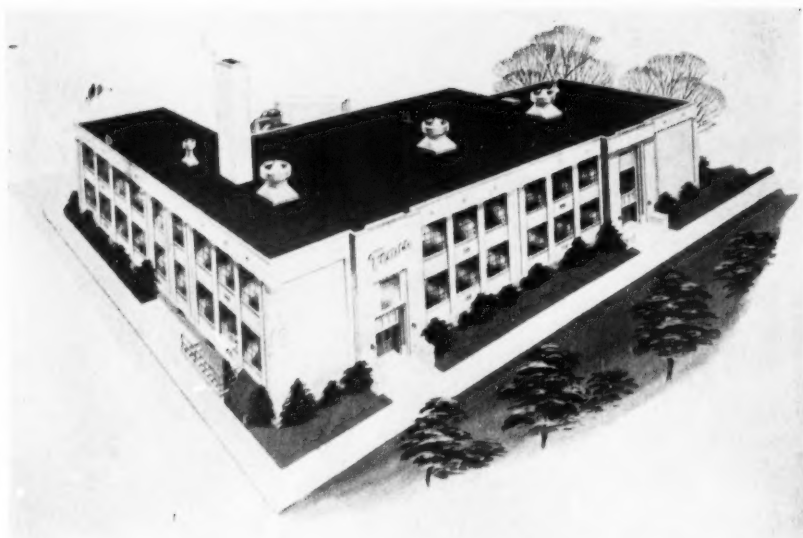
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Farmers Engineering Builds New Plant at Irwin, Penna.



NORMAN F. AGNEW



W. PORTER PLACE

● Farmers Engineering and Manufacturing Company, designers and makers of Femco products for electronic communication and control, has announced the completion and opening of a new plant at Irwin, Pennsylvania. The value of the building, land, equipment, patents and inventory is estimated by the company's auditors to exceed one million dollars.

The move, according to partners of the firm Norman F. Agnew and W. Porter Place, follows the current trend by modern industry to locate out of congested city areas.

The Femco firm formerly located on Brushton Avenue in the Homewood section of Pittsburgh.

The new plant site consists of 7 acres situated on a wooded hill, close by the Irwin interchange of Route 30 and near to the Irwin entrance of the Pennsylvania Turnpike.

A modern structure on the site was utilized in the creation of the new plant. Two stories high, it is of brick, steel and concrete, fire-resistant throughout. Oversized steel and glass casement windows provide natural light and ventila-

tion to all work areas. Separate parking lots for employees and visitors have been provided for and a large area for trucks adjoins a loading and receiving dock at the rear.

Inside, the entire ground floor is laid out for manufacturing, assembly, inspection, storage and shipping, with separate areas for different functions and with wide hallways for speedy flow of materials. Plastic rock flooring covers these work areas for ease and comfort of production employees.

On the second floor, engineering, general offices and other departments devoted to research, application, sales and administration are grouped for efficient coordination.

● A new catalog descriptive of the Galion line of dump bodies, hydraulic hoists and end-loaders is announced by The Galion Allsteel Body Company, Galion, Ohio.

Outstanding catalog feature is a handy reference table which permits the user to easily select the exact hoist and body best suited to his needs. This is reputed to be the first table of this type ever compiled by a dump body manufacturer. Action photographs, engineering diagrams, complete technical data information and mechanical specifications are other catalog features. Full data is included on a vast collection of equipment ranging from light duty pick-up truck units to huge twin telescopic, 3 stage tandem axle trailer dumps.

For catalog copies, write to The Galion Allsteel Body Company, Galion, Ohio. Ask for L-6512.



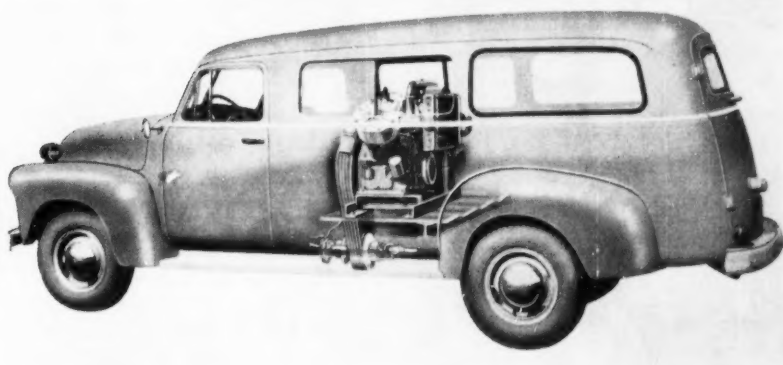
Wm. N. Newton has been made manager of sales for the materials beneficiation division of the Jeffrey Manufacturing Co.



TV GOES UNDERGROUND TO SHOW RISING COAL PRODUCTION

Millions of British TV viewers recently saw coal miners at work 190 feet underground when the British Broadcasting Corporation took four of its cameras down into the Tillicoultry Mine in Clackmannanshire, Scotland. Their screens showed a coal cutter in action, shotfiring, coal stripping, stone ripping, and prop withdrawing from the coal face. Output per manshift in the Tillicoultry Mine is among the highest in Britain. In the first 49 weeks of this year the United Kingdom has produced 212,801,000 long tons of coal—2½ million long tons more than was produced during the same period last year.

Picture shows: Mr. Alastair Borthwick (center), one of three BBC commentators taking part in the telecast, interviews miner J. B. Hunter (left) at the coal face of the Tillicoultry Mine. The man on the right is not named.

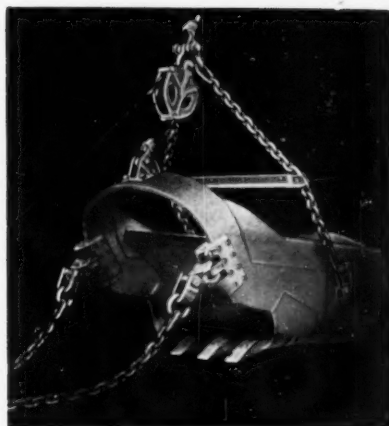


● A new "Auto-Air" compressor assembly suitable for mounting on standard panel type trucks, is announced by Davey Compressor Co., Kent, Ohio.

Known as Model 105-VBA, the unit delivers 105 c. f. m. at 100 lbs. pressure. It is driven directly

from the truck engine through a Davey P-80 heavy duty power take-off. Compressor occupies only one-third of truck body, leaving the remainder open for the transportation of men, tools and materials.

For complete data, write Davey Compressor Co., Kent, Ohio.



Page Improved Automatic Dragline Buckets

♦ ♦

Repairs for ALL Page
Dragline Buckets

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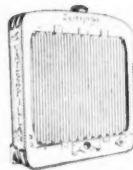
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SALEM "HERCULES" AUGERS FOR ELECTRIC DRILLS

Made To Withstand High Drilling Speed, Whip And Torsional Strain Of Electric Drills



Drills holes faster—Will not snap off shank or chip points—Outlasts four or five ordinary augers.

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Any Size Any Track Gauge

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McNally Coal Washer, 500 tph, new 1948 Deisel Locomotive, Cummins HB 600 engine, 16 ton, 48" tract gauge, ready to go.

50 end dump mine cars, 48" gauge, 4 ton cap.

Liddehrwood mine hoist, complete with 300 hp mtr and control equipment.

Vulcan slope hoist, complete with 50 hp mtr.

Brownie HKL spot hoist.

Goodman 512 cutter and 600 loader.

Jeffrey 29-U-35 BB cutters and L-600 loader.

GE 500 volt, 1200 amp. and ITE, 275 volt, 800 amp. automatic circuit breakers.

100 KW. MG. Set Complete. Boards and Switch Gear—Bargain.

Deisel 75 KW and 100 KW generators, 200 KW-Ridgeway M G Set complete, with controls and automatic breakers.

American No. 3 saw mill complete with standard equipment-new.

300 KVA Whse transformers, type AVR air cooled, 230 volts to 440 and 3-25 KVA.

Jay 6SC-5 B E shuttle cars and 7 S C shuttle car-2800 series-A 1 shape.

Generators, G E 150 KW-100 KW Whse.

Barge or vessel unloading steel tower, complete with 7 yard bucket, good condition.

STEELTITE COMPOUND for water spray systems for coal dust control—1 gal. Steel-tite to 1,000 gal. water. Have lower moisture coal—plus clear working conditions around mining machines and cleaning plants.

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POSITION WANTED

Mine Superintendent with 16 years experience wants to locate new position. Will go anywhere.

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SALES ENGINEER

for sales and service of rail bonds and electrical maintenance products to coal mines. Must be experienced with mine operations and problems relating to electrical maintenance. Previous sales experience with mines preferable. Send photo and qualifications. Salary and expenses. Write:

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COAL MINING

MARCH 1953

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Torque converter eliminates jerking, and "bouncing" and shock . . . can reduce your maintenance costs 25 %.

OSGOOD Machines Dig...Strip...Pile...Load More Coal In Less Time With Less Wear!

To strip off overburden . . . to dig the coal itself . . . to load it for hauling . . . to do a money-making job day after day, for all phases of your strip mine operation . . . OSGOOD builds a powerful, steady machine.

You realize a profitable reduction in wear and maintenance when you take advantage of the fast digging and loading cycles, rugged construction and over-all smooth operation of an OSGOOD.

If you are looking for a stripper, loader, or dragline . . . choose an OSGOOD. . . There's a model for your every requirement. For detailed information, consult the nearest OSGOOD-GENERAL Distributor.



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4-yard Heavy Duty Cast Weld dipper on P&H 1400.

With a surplus of fight where it counts most, ESCO Heavy Duty Cast Weld dippers stand up on equipment-killing jobs where only the best is tough enough. Here's the inside story of this rugged new Heavyweight:

Back connections to fit any make of machine. Cast manganese steel digging and wearing parts same as on All-Cast dippers.

Shell and back beams fabricated of heavy plate steel.

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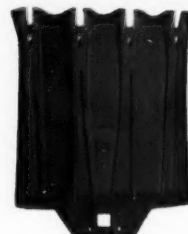
Size $\frac{3}{8}$ to 6 yards.

Maintenance, when at last it becomes necessary, is quickly done on the job with ordinary methods and electrodes.

For details of weights and dimensions, see your ESCO dealer, or send us the filled-in coupon for bulletin 189, "ESCO Dipper Buckets".



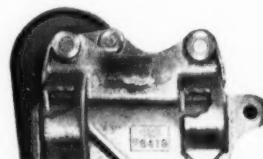
Manganese steel doors and hinges stand up under shock and heavy loads. Free working latch mechanism.



Wide set teeth and tapered box promote fast digging and quick, complete discharge.



Massive rock-type front casting of manganese steel resists shock and wear of digging. Tooth holders cast integrally with cutting lip.



Hollow beam construction increases strength, reduces weight. Heavy duty back connections and ribs.

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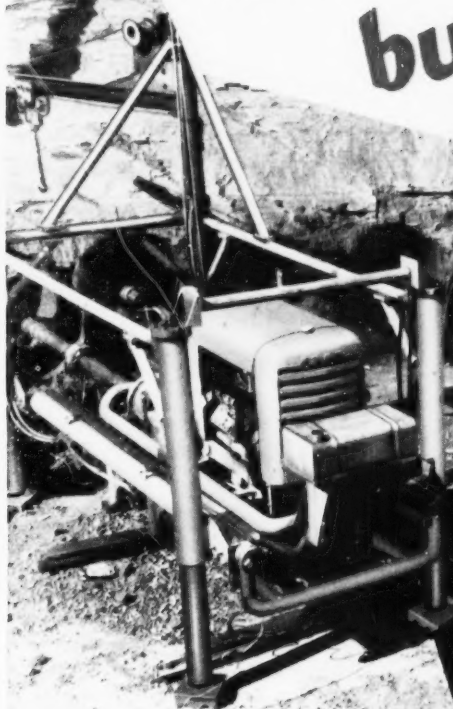
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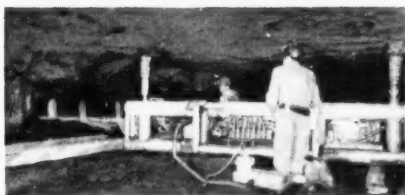
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buries profits...



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brings "dead" strip mines back to life . . .



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